Working Procedure		WP 006
Title		**Page Number**
Horiba Emission Analysis System Startup/Shutdown Procedure		1 of 11
Originator		**Supersedes**
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Implementation Approval

Original Test Procedure Authorized by EPCN #215 on 01-08-99

Revision Description

Note: Specific brand names in EPA/EOD procedures are for reference only and are not an endorsement of those products.

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Figures

1. **Purpose**

   The purpose of this working procedure is to describe the equipment and procedure required to perform a startup and a shutdown procedure of the Horiba, MEXA-7000 Series Automotive Emission Analysis System. in Room 516.

2. **Test Procedure**

   100   Startup Procedure:

   101   Turn on the main power switch for the MEXA power supply unit (PSU).
            See Figure 1

Figure 1
PSU Power Switch

102   Turn on the main power switch for the OVN-Heated Analyzer located on the upper back of the heated FID/heated NOx unit. See Figure 2.

Verify that the green power light is illuminated. If not, and the power switch is turned on, notify the senior PNGV technician.

Figure 2
OVN Heated Analyzer Power Switch

103   Ensure that the PSU local remote switch is set to local.

104   Observe the indicator lights on the follwing panels. See Figure 3.

OVN

MEXA Interface Control Unit (IFC)

Solenoid Valve Unit (SVS)

Sample handling system (SHS)

When power is first applied, the "OPE" indicator light on each panel will blink sporadically for approximately 90 seconds then settle into a steady blinking pattern.

Figure 3
OPE Indicator Lights

105   Turn on the power to the master control unit (MCU) computer and monitor. It will take several minutes for the system software to load.

At the screen prompt, enter <y> then <enter> to start the Mexa program. If the prompt is ignored, the program will start automatically.

106   On the MCU monitor screen, a panel will appear displaying: "System clock: "MM CCYY hh:mm." System clock correct ?" See Figure 4.

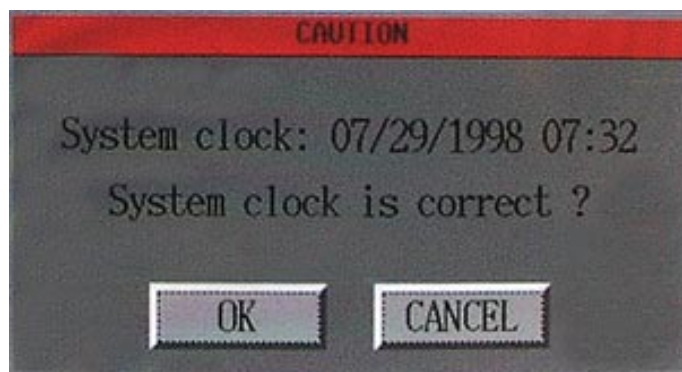If it is correct, click on "OK." The Horiba Basic Panel screen will appear.

Figure 4
System Clock Screen

If it is not correct, click on "Cancel" and use the "Adjust Date and Time" panel to correct the date. See Figure 5.
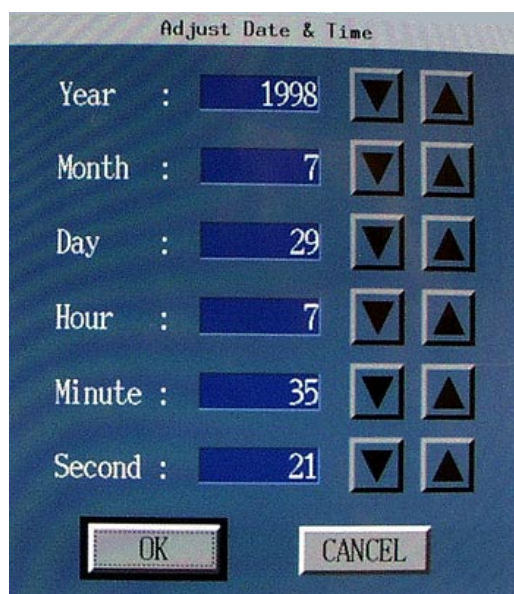

Figure 5
Adjust Date & Time

107   As the system comes on-line, each alarm will automatically clear from the screen. If after 5 minutes all alarms are not cleared and the message "No MEXA alarm" does not appear, notify a PNGV senior technician and wait for instructions before proceeding

Click on "OK." If the red "Alarm" button, located in the title bar of the basic panel, continues to flash, click on it and the "MEXA alarm" screen will appear. See Figure 6.

Figure 6
MEXA Alarms

108   When the Horiba Basic Panel screen appears, click on the "Stand By" button in the display setup section of the screen. See Figure 7.

Figure 7
Basic Screen Stand-By Button

109   On the subpanel, verify that the display field next to the "Line" button indicates "All line." See Figure 8.

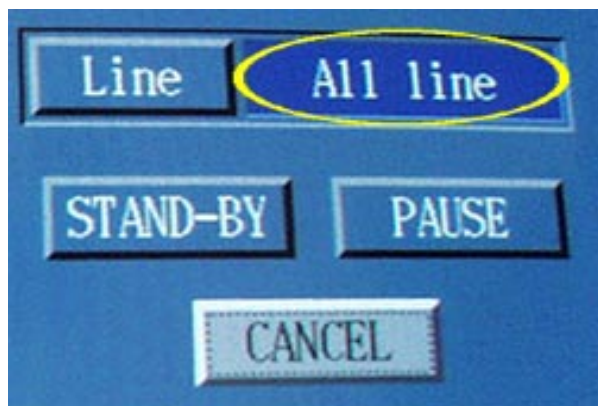If it does not, click on the "Line" button and from menu items that appear, click on "All line."

Figure 8
All line Verification

110   When Line is set to All Line, click on the "Stand by" button. See Figure 9.

All the FIDs will automatically light and the Horiba bench ozonators will turn on. The CH4, THC and N0x buttons will be colored grey if the FIDs are not lit.

Figure 9
Menu Stand-By Button

111   When the Horiba Command screen appears, verify that all the analyzer buttons in the command area indicate "STBY." See Figure 10.

If there are any problems, "Pause" will appear instead "STBY." Notify a PNGV senior technician and wait for instructions before proceeding

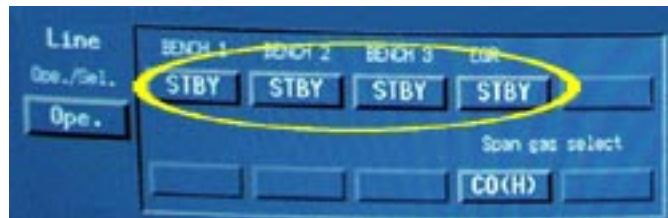If no problems, the Horiba bench is ready for testing.

Figure 10
Analyzer Buttons in STBY

200   Shutdown Procedure

201   On the Main Control Unit (MCU) "Command Screen," select the "Menu" button. See the arrow in Figure 11.

From menu items that appear below the button, click on "Utility." See the circle in Figure 11.

Figure 11
Utility Selection

202   In the system operation row of the Command area of the screen, click on "Shut Down." A panel will appear with the warning, "Are You Sure?" See Figure 12.

Click on "OK."

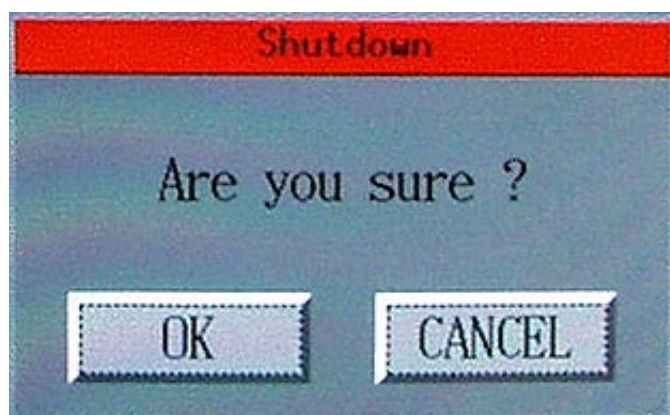A "Shut down procedure is being executed" panel will briefly appear.

Figure 12
Shutdown Verification Screen

203   Wait until the screen displays "LynxOS is down."

204   Turn off the power switch on the MCU.

205   Turn off the main power switches on the following:

MEXA-7200 PSU

MEXA-7500 PSU

OVN-Heated Analyzer main power switch located on the upper back of the heated FID/heated NOx unit.

The Horiba bench is shut down.

3.   Acceptance Criteria

3.1   The OVN-Heated Analyzer green power light must be illuminated.

3.2   The "OPE" indicator light on each panel must be in a steady blinking pattern.

3.3   The correct time and date must be set.

3.4   All alarms must be cleared and the "No MEXA alarm" message must be observed.

3.5   The "Line" button must indicate "All line."

3.6   All the FIDs must be lite and the Horiba bench ozonators must be on.

3.7   All analyzers must be in the "STBY" mode before testing can begin.